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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/509,312

Applicant(s)

XU ET AL.

Examiner

STEVEN LIM

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/15/2010 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claim 1-3, 5, 9, 11-13, 15, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Josse et al. (US 6104929) in view of Ovesjo et al. (US 20020160785) and Eriksson (US 20030103478).
5. Regarding Claims 1 and 11, Josse et al. teaches exchanging messages between the Mobile Station (Fig. 1, Item 40) and the Radio Access Network (Fig. 1, Item 30) of a first technology (Base Station System communicates using a Gb interface to the SGSN and to the mobile station using a air interface which is different from a Gn interface, Fig. 1, Col. 4, Lines 45-52) and between the Radio Access Network and the Core Network (Fig. 1, Item 20) (GGSN communicates with SGSN through a Gn interface and to the Data Network or Internet, Col. 4, Lines 39-45) through a Hybrid Atrium (a group of core nodes in the Core Network which includes a SGSN, Fig. 1, Item 24, Col. 4, Lines 33-57) where the node includes an ability to exchange short messages (Attach Request Message) with the MS (Col. 2, Lines 44-58) directly (Col. 7, Line 23-24, Col. 10, Line 66-67, Fig. 3, Item 3-1 and 3-9, communication occurs directly between MS and SGSN with attach request and attach accept messages where the SGSN uses the BSS as its antenna), however Josse et al. fails to disclose exchanging messages between the MS and the RAN of a first technology and between the RAN of a first technology and the CN of a second technology through a Hybrid Atrium in a Core Network.
6. In an analogous art, Ovesjo et al. discloses a MS communicating with a RAN using a first technology and communicating between the RAN of the first technology

and the CN of a second technology through a Hybrid Atrium (MS communicates with RAN using GSM or UMTS and CN communicates with RAN using PSTN or ISDN through BSC or RNC, Paragraphs 27-29), which enables interoperability.

7. In an analogous art, Eriksson discloses a Core Network including a mobile station communicating with a RAN using a first technology (UMTS) and the RAN communicating with the Core Network (Fig. 1) that includes two core nodes (circuit switched and packet switched core nodes, Paragraph 28) that create a hybrid atrium (coexisting nodes of different technologies including UMTS and GSM, Paragraph 28), which enables interoperability.

8. It would have been obvious to one having ordinary skill in the art at the time of invention was made include hybrid atrium in a core network and to communicate using multiple technologies in the core network in order to promote backwards capability and interoperability.

9. Regarding Claims 2 and 12, Josse et al. further teaches initiating a data session by the MS with the hybrid atrium (a group of core nodes in the Core Network which includes a SGSN) through a Base Station (Fig. 1, Items 24 and 30), updating a Home Location Register by the Hybrid Atrium (Col. 2, Lines 44-58), informing a QoS by the HLR, and negotiating a QoS by the Hybrid MSC (Col. 7, Lines 22-32, and tables 1-3).

10. Regarding Claims 3 and 13, Josse et al. further teaches sending a short message (attach reply) to the MS from the Hybrid Atrium (Col. 7, Lines 52-53) and sending a short message reply (attach request) from the MS to the Hybrid Atrium (Col. 7, Lines 22-23).

11. Regarding Claims 5 and 15, Josse et al. further teaches updating the CN with a data session context update (PDP) through the Hybrid Atrium (update SGSN request, Col. 7, Lines 34-37).

12. Regarding Claims 9 and 19, Josse et al. further teaches exchanging messages includes an ability to handoff between Serving General Packet Radio Service Nodes (SGSN, Col. 6, Lines 1-12, Fig. 1, Item 24 ₁ and 24 ₂).

13. Claims 4, 6, 7, 14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Josse et al. (US 6104929) in view of Ovesjo et al. (US 20020160785), Eriksson (US 20030103478), 3GPP (ETSI TS 123 060 V3.3.0 (2000-04)) and further in view of IETF (The Point-to-Point Protocol (PPP), RFC 1661, July 1994).

14. Regarding Claims 4 and 14, Josse et al. further discloses establishing a connection (PDP Contexts) and data transfer between the Hybrid Atrium and the MS (Col. 4, Lines 45-51, Col. 2, Lines 9-15), however Josse et al. fails to disclose the connection being a direct PPP.

In an analogous art, 3GPP discloses PDPs can be of the type PPP which enables a N-PDU of 1 502 octets (Page 124, Section 9.3).

In an analogous art, IETF defines a PPP connection as direct between two peers (Page ii, Introduction), which enables the PPP to follow established standards.

It would have been obvious to one having ordinary skill in the art at the time of invention was made to establish a PPP connection in order to allow the system to have

a N-PDU maximum size of 1 502 octets (Page 124, Section 9.3) and to establish the PPP connection as direct to follow the standard definition of a PPP connection.

15. Regarding Claims 6 and 16, Josse et al. further discloses establishing a connection (PDP Contexts) between the Hybrid Atrium and the MS (Col. 4, Lines 45-51), however Josse et al. fails to disclose the connection being a direct PPP connection, sending a termination request from a Base Station Controller for the MS to the Hybrid Atrium, exchanging messages between the Hybrid Atrium and the CN to terminate the PPP connection and terminating the PPP connection between the Hybrid Atrium and the MS.

In an analogous art, 3GPP discloses PDPs can be of the type PPP (Page 124, Section 9.3), sending a termination request from a Base Station Controller for the MS to the Hybrid Atrium (SGSN, Page 120, Section 9.2.4.1), exchanging messages between the Hybrid Atrium and the CN to terminate the PPP connection and terminating the PPP connection between the Hybrid Atrium and the MS (Page 120, Section 9.2.4.1), which enables the system to follow GPRS standards.

In an analogous art, IETF defines a PPP connection as direct between two peers (Page ii, Introduction), which enables the PPP to follow established standards.

It would have been obvious to one having ordinary skill in the art at the time of invention was made to initiate a connection termination from the mobile station because packet data transfer is no longer required and to follow the standards regarding GPRS and to establish the PPP connection as direct to follow the standard definition of a PPP connection.

16. Regarding Claims 7 and 17, Josse et al. further discloses establishing a connection (PDP Contexts) between the Hybrid Atrium and the MS (Col. 4, Lines 45-51), however Josse et al. fails to disclose the connection being a direct PPP connection, sending a termination request from the CN to the Hybrid Atrium, exchanging messages between the Hybrid Atrium and the MS to terminate the PPP connection and terminating the PPP connection between the Hybrid Atrium and the MS.

In an analogous art, 3GPP discloses PDPs can be of the type PPP (Page 124, Section 9.3), sending a termination request from a CN (internet host) to the Hybrid Atrium (SGSN, Page 122, Section 9.2.4.3), exchanging messages between the Hybrid Atrium and the MN to terminate the PPP connection and terminating the PPP connection between the Hybrid Atrium and the MS (Page 122, Section 9.2.4.3), which enables the system to follow GPRS standards.

In an analogous art, IETF defines a PPP connection as direct between two peers (Page ii, Introduction), which enables the PPP to follow established standards.

It would have been obvious to one having ordinary skill in the art at the time of invention was made to initiate a connection termination from the core network because packet data transfer is no longer required and to follow the standards regarding GPRS and to establish the PPP connection as direct to follow the standard definition of a PPP connection.

17. Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Josse et al. (US 6104929) in view of Ovesjo et al. (US 20020160785), Eriksson (US 20030103478), and Weissman (US 20030188319).

18. Regarding Claims 8 and 18, Josse et al. further discloses exchanging messages includes an ability to handoff between Serving General Packet Radio Service Nodes (SGSN, Col. 6, Lines 1-12, Fig. 1, Item 24₁ and 24₂), however, Josse et al. fails to disclose handoff between Packet Data Service Nodes.

19. In an analogous art, Weissman discloses a combination of SGSN and PDSN to enable the cellular system to communicate with its compatible network (Paragraph 64).

20. It would have been obvious to one having ordinary skill in the art at the time of invention was made to combine and handoff between PDSNs to allow the cellular device to communicate to a compatible network (Paragraph 64).

21. Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Josse et al. (US 6104929) in view of Ovesjo et al. (US 20020160785), Eriksson (US 20030103478), and Weissman (US 20030188319) and further in view of Grilli et al. (US 20030002525)

22. Regarding Claims 10 and 20, Josse et al. further teaches exchanging messages includes an ability to handoff between Serving General Packet Radio Service Nodes (SGSN, Col. 6, Lines 1-12, Fig. 1, Item 50, 24₁ and 24₂), however Josse et al. fails to disclose handoff between a PDSN and SGSN.

In an analogous art, Weissman discloses a combination of SGSN and PDSN to enable the cellular system to communicate with its compatible network (Paragraph 64).

In an analogous art, Grilli et al. discloses a hybrid GSM/CDMA network with handoff (Fig. 13).

It would have been obvious to one having ordinary skill in the art at the time of invention was made to handoff between a PDSN and SGSN to allow the cellular device to operate data transmission in a hybrid network.

23. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Josse et al. (US 6104929) in view of Ovesjo et al. (US 20020160785), Eriksson (US 20030103478), and further in view of Weissman (US 20030188319).

24. Regarding Claim 21, Josse et al. teaches exchanging messages between the Mobile Station (Fig. 1, Item 40) and the Radio Access Network (Fig. 1, Item 30)(Base Station System communicates using a Gb interface to the SGSN and to the mobile station using a air interface which is different from a Gn interface, Fig. 1, Col. 4, Lines 45-52) and between the Radio Access Network and the Core Network (Fig. 1, Item 20) (GGSN communicates with SGSN through a Gn interface and to the Data Network or Internet, Col. 4, Lines 39-45) through a Hybrid Atrium (a group of core nodes in the Core Network which includes a SGSN, Fig. 1, Item 24, Col. 4, Lines 33-57) where the Hybrid Atrium includes an ability to exchange short messages (Attach Request Message) with the MS (Col. 2, Lines 44-58) directly (Col. 7, Line 23-24, Col. 10, Line 66-67, Fig. 3, Item 3-1 and 3-9, communication occurs directly between MS and SGSN

with attach request and attach accept messages where the SGSN uses the BSS as its antenna), a SGSN (SGSN in communication with SGSN, Fig. 1, Item 24₁ and 24₂), a GGSN (Fig. 1, Item 20), however Josse et al. fails to disclose the Hybrid Atrium exchanging messages with a PDSN and exchanging messages between the MS and the RAN of a first technology and between the RAN of a first technology and the CN of a second technology through a Hybrid Atrium in a Core Network.

25. In an analogous art, Ovesjo et al. discloses a MS communicating with a RAN using a first technology and communicating between the RAN of the first technology and the CN of a second technology through a Hybrid Atrium (MS communicates with RAN using GSM or UMTS and CN communicates with RAN using PSTN or ISDN through BSC or RNC, Paragraphs 27-29), which enables interoperability.

26. In an analogous art, Eriksson discloses a Core Network including a mobile station communicating with a RAN using a first technology (UMTS) and the RAN communicating with the Core Network (Fig. 1) that includes two core nodes (circuit switched and packet switched core nodes, Paragraph 28) that create a hybrid atrium (coexisting nodes of different technologies including UMTS and GSM, Paragraph 28), which enables interoperability.

27. In an analogous art, Weissman discloses a combination of SGSN and PDSN to enable the cellular system to communicate with its compatible network (Paragraph 64).

28. It would have been obvious to one having ordinary skill in the art at the time of invention was made include hybrid atrium in a core network and to communicate using

multiple technologies in the core network in order to promote backwards capability and interoperability.

29. It would have been obvious to one having ordinary skill in the art at the time of invention was made use a PDSNs instead of a SGSN to allow the cellular device to communicate to a compatible network (Paragraph 64).

Response to Arguments

Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 3/15/2010 have been fully considered but they are not persuasive. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, placing core nodes of different technologies in a Core Network allows for interoperability thereby increasing efficiency and cost effectiveness. In response to applicant's

arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Therefore the limitations as broadly claimed and interpreted are disclosed as listed above in the Rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEVEN LIM whose telephone number is (571)270-1210. The examiner can normally be reached on Mon-Thurs 9:00am-4:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. L./
Examiner, Art Unit 2617

/LESTER KINCAID/
Supervisory Patent Examiner, Art Unit 2617